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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/718,767

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Tsuyonobu Hatazawa

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EXAMINER

CREPEAU, JONATHAN

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/718,767	<b>Applicant(s)</b> HATAZAWA ET AL.	
	<b>Examiner</b> Jonathan S. Crepeau	<b>Art Unit</b> 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 April 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4-6 and 8-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-6 and 8-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office action addresses claims 1, 4-6 and 8-11. All the claims are newly rejected under 35 USC 112 and 35 USC 103 as necessitated by amendment. Accordingly, this action is made final.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 4-6 and 8-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 has been amended to specify that “the first [second] gas absorbable member not being a part of the laminated film nor the gas absorbable material and resin material.” However, the latter limitation, “not being a part of the gas absorbable material and resin material,” does not make sense and introduces a lack of clarity in the claims. Heretofore, claim 1 was interpreted as reciting that the first and second gas absorbable members each comprised the gas absorbable material and resin material. However, the new language expressly states that the gas absorbable members are not part of (i.e., do not comprise) the gas absorbable material and resin material, which contradicts the previous interpretation, and raises the question of what exactly is contained in the “gas absorbable members” if not the gas

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absorbable material and resin material. Deletion of the above-identified claim language is suggested. For examination purposes herein, the claim has been interpreted as requiring that the gas absorbable members are not part of the laminated film, which corresponds to Figs. 1-6 of the instant application.

It is further noted that claim 6 recites that "said gas absorbable material is contained in said laminated film." However, this contradicts claim 1 as interpreted herein. Correction is required.

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1, 4-6 and 8-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recites that the gas absorbable material and resin material has a thickness 1 to 500 microns. However, claim 1 has also been amended to specify that the first and second gas absorbable members are "not... a part of the laminated film." It is submitted that the recited thickness range is not consistent with this embodiment of the invention, i.e., the "plate-

shaped” embodiment (Fig. 5). On page 16, the instant specification discloses that in this embodiment of the invention, the thickness of the gas absorbable member is in the range of 50 microns to 1 mm, preferably 100-500 microns. Accordingly, the range recited in claim 1 is inconsistent with the “non-laminated” limitation, and as such constitutes new matter.

***Claim Rejections - 35 USC § 103***

6. Claims 1, 5, 6, and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 895296 in view of Gozdz et al (U.S. Patent 5,607,485).

Regarding claim 1, EP ‘296 teaches a nonaqueous electrolyte battery comprising a battery element (6) is contained in an outer covering member including a laminated film having an outermost layer and is sealed by heat seals. The laminate may be in the form of a single sheet, with the first and second covering members folded together and heat-sealed. The battery comprises an inorganic fine oxide powder such as silica which may be located between the battery element and the casing (see [0031], [0033]). It is disclosed that the inorganic oxide functions to “effectively absorb the hydrofluoric acid and others.” However, it is submitted that the oxide would also inherently function as a “gas absorbable material” as recited in claim 1. The battery electrodes contain carbon and a lithium composite oxide (see [0027]).

The reference does not expressly teach that the gas absorbable material is mixed with a resin material to form first and second gas absorbable members, as recited in claim 1, or that the battery element is a winding-type battery element, as also recited in claim 1.

However, it is submitted that the artisan would be motivated to mix the inorganic oxide powder of EP '296 with a resin material to form gas absorbable members. In [0031], the reference teaches that the powder may be present in the space between the battery in the case, but may also be present as an electrolyte or electrode additive. The artisan would recognize from this disclosure that it would be advantageous to include a resin binder for the loose powder present in the space between the case and the battery. Such a resin binder would allow the gas absorbable members to become self-supporting and would prevent migration of the powder to other parts of the battery. Accordingly, the use of resin to form gas absorbable members would be obvious to the skilled artisan. The mixing ratio of the two components, as well as the thickness of the members as recited in claim 1 would also be rendered obvious.

Additionally, although EP '296 does not expressly teach a winding type battery element as recited in claim 1, it is submitted that the use of such a battery element would be obvious to the skilled artisan. It is known that the use of a wound configuration allows the current density of the battery to be increased. As such, the use of a wound battery element in the battery of EP '296 would be rendered obvious.

Additionally, although EP '296 does not expressly teach a silica "gel" as recited in claim 1, it is submitted that the silica disclosed by the reference would inherently become a "gel" upon absorption of liquids contained within the cell. Accordingly, this limitation is also not considered to be patentably distinguishable over the reference.

EP '296 further does not expressly teach that the electrolyte is a gel electrolyte comprising vinylidene fluoride-hexafluoropropylene (PVDF:HFP) copolymer as recited in claim 1.

The patent of Gozdz et al is directed to a lithium secondary battery. The battery may contain a gel electrolyte containing a PVDF:HFP copolymer and 20-70 wt% of a plasticizer containing an electrolytic salt (see abstract).

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the disclosure of Gozdz et al. provides the artisan sufficient motivation to use these materials in the battery of EP '296. In column 2, line 30, Gozdz et al. teach the following:

**The present invention provides a means for avoiding the disadvantages of prior electrolytic cell compositions and constructions by enabling the ready and economical preparation of strong, flexible polymeric electrolytic cell membranes which will readily retain electrolyte salt solutions and remain functional over a range extending well below room temperature.**

As such, the artisan would be motivated to use the electrolyte of Gozdz in the battery of EP '296.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP '296 in view of Gozdz et al. as applied to claims 1, 5, 6, and 8-11 above, and further in view of Wedlake (U.S. Patent 4,269,905).

EP '296 does expressly disclose that the battery contains a carbon molecular sieve, as recited in claim 4.

Wedlake is directed to electrochemical cells having a casing containing a layer of molecular sieve material. The molecular sieve may comprise materials such as zeolite and carbon (col. 3, line 59 et seq.).

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated to use the carbon molecular sieve of Wedlake in the gas absorbable member of EP '296. In the abstract, Wedlake discloses that "this invention involves associating a micromolecular sieve carrier with the cell to sorb such contents when they escape, to reduce the severity of undesired reactions of such contents." As such, the artisan would be motivated to use the materials disclosed by Wedlake, such as carbon molecular sieve, in the gas absorbable member of EP '296 in hopes of obtaining these advantages.



*Conclusion*

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

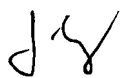
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan, can be reached at (571) 272-1292. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jonathan Crepeau  
Primary Examiner  
Art Unit 1745  
June 1, 2007